112. Various forms of this emerging competition were discussed earlier in the context of market definition. For example, new competition is emerging from terrestrial broadcasters in the form of HD Radio. Competition in audio entertainment from wireless phones is already occurring. Moreover, the newly announced Slacker service will use Ku Band satellites to deliver audio to MP3 players. Products such as Autonet have begun to make Internet in the car a reality.

113. Competition from wireless devices obviously will expand dramatically as wireless technology permits delivery of content over the Internet to moving vehicles. Over the next two years or so, entry by a number of new services will increase the delivery of competing services that rely on mobile Internet connectivity. New mobile broadband capacity will enable additional distribution of content and entry by further content providers.

- New access technologies will make widely available mobile broadband access a reality. New players using Wi-Fi and WiMAX technology are raising capital and preparing for nationwide rollout. Clearwire, a private partnership backed by Motorola and Intel, has raised over $1 billion in capital.[210] Sprint has announced a $2.5-3 billion WiMAX rollout in 100 U.S. markets by 2008, and more recently announced that it plans to jointly construct with Clearwire an even more extensive WiMAX network.[211] NextWave, a provider of mobile broadband and wireless multimedia products, holds AWS and WCS spectrum covering about 249 million POPs in the U.S.[212]
- As broadband mobile access become widely available, established Internet-based content providers can be expected to expand the services they supply and, in addition, new content providers and entertainment services and capabilities can be expected to enter. Examples of recent new entrants are "off-deck" music services, such as those discussed above, and so-called "place-shifting" services, such as those that allow users

[210] Clearwire Press Release, *Clearwire Announces New $1 Billion Term Loan Financing* (July 5, 2007), *available at* http://clearwire.com/company/news/07_05_07.php (last visited July 17, 2007). *See also* Clearwire Press Release, *Clearwire Successfully Completes First Phase of Mobile WiMAX Field Trial* (May 21, 2007), *available at* http://www.clearwire.com/company/news/05_21_07.php (last visited July 17, 2007).

[211] Sprint Press Release, *Sprint Nextel Announces 4G Wireless Broadband Initiative with Intel, Motorola and Samsung* (August 8, 2006), *available at* http://www2.sprint.com/mr/news_dtl.do?id=12960 (last visited July 12, 2007). Under the proposed arrangement between Sprint and Clearwire, each would build their respective portions of the network and allow roaming between their territories. Sprint Press Release, *Sprint Nextel and Clearwire to Partner to Accelerate and Expand the Deployment of the First Nationwide Mobile Broadband Network Using WiMAX Technology* (July 19, 2007), *available at* http://www2.sprint.com/mr/news_dtl.do?id=17520.

[212] NextWave Wireless Press Release, *NextWave Wireless Announces Full Year Financial Results for 2006*, *available at* http://www.nextwave.com/page.asp?prmID=474&prmmID=503 (last visited July 17, 2007).

to stream content directly from their PCs to other internet-connected devices, including cell phones or PDAs.[213]

- Other new multi-media focused mobile broadband networks provide content rather than Internet access. These new rollouts include Qualcomm's $800 million MediaFLO launch this year, and competing DVB-H network rollout efforts by Hiwire and Modeo.[214] These broadband networks are initially focused on providing video content, but have substantial capacity that also could be used to provide audio content.[215]

All of these factors will increase the competition faced by the merged firm and, therefore, will reduce its incentive to raise prices.

114. Some Comments have requested that conditions should be attached to the merger to prevent the merged firm from negotiating agreements with auto makers that would prevent them from installing competing audio devices.[216] These requests for conditions provide direct evidence of the fact that satellite radio faces competition from other technological platforms. There is, however, no need for such conditions. The auto makers have sufficient bargaining leverage with suppliers such as the merged firm, and competitive incentives in the automobile market, to resist demands for dashboard exclusivity. In contrast to satellite radio exclusivity, most 2007 auto models are offering iPod/MP3 integration, Ford is offering the Ford Synch integration system, and BMW is leading the installation of HD Radios as optional equipment across its entire 2007 product line. The notion that the auto makers would choose to forgo Internet connectivity in response to a threat or payment by the merged firm strains credulity in light of the current and projected market shares in the audio entertainment product market. While such conditions therefore appear innocuous, there is a risk that they might be used or interpreted later on in a way to

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[213] Such services include Orb, Avvenue, and Nutsie (from Melodeo). *For example, see* http://www.orb.com/mymusic (last visited July 17, 2007); http://www.avvenu.com/products/product?main.php (last visited July 12, 2007); *see also* http://melodeo.com/ (last visited July 12, 2007).

[214] Verizon Wireless Press Release, *Verizon Wireless Launches MediaFlo Cell Phone TV* (March 2, 2007), *available at* http://www.technewspulse.com/verizon-wireless-launches-mediaflow-cell-phone-tv-416 (last visited July 12, 2007). *See also* Andrew Wallenstein, *Cingular to offer MediaFlo for Cell phone TV*, THE HOLLYWOOD REPORTER (Feb 13, 2007) available at http://www.hollywoodreporter.com/hr/content_display/television/news/e3i4c4172643b5f38ce7206f731b9164110 (last visited July 17, 2007); *see also* Evan Blass, *Hiwire to compete with MediaFlo, Modeo's DVB-H,* ENGADGET iMOBILE (Apr 25, 2006), *available at http://www.engadgetmobile.com/2006/04/25/hiwire-to-compete-with-mediaflo-modeos-dvb-h/* (last visited July 17, 2007); Modeo Press Release, *Modeo Launches Live Mobile TV Beta Service In Nation's Largest Metro Area* (January 8, 2007), *available at* http://www.modeo.com/press_07.asp (last visited July 12, 2007).

[215] *See* Charles L. Jackson, *Service and Spectrum Alternatives for Audio News and Entertainment Services* (July 24, 2007), attached to *Joint Reply Comments of XM Satellite Radio Holdings Inc. and Sirius Satellite Radio Inc.*, MB Docket No. 07-57.

[216] Comments of Slacker Inc; Comments of New ICO Satellite Services G.P.; *Joint Petition to Deny of Forty-Six Broadcasting Organizations*, MB Docket No. 07-57 (July 9, 2007) at 9.

have the unintended side effect of preventing efficient installation or integration agreements that would benefit consumers.

3. De Novo Entry

115. New entry into the audio entertainment product market may occur through the use of Mobile Satellite Service ("MSS") frequency bands. We understand that three firms are close to launching hybrid MSS satellite systems that will be used in conjunction with terrestrial access links, and that can be used to provide audio entertainment services.[217] ICO has announced that it will begin to offer multi-media subscription service for mobile users in 2008.[218] Similarly, TMI/TerraStar also expects to launch an MSS system in 2008.[219] Mobile Satellite Ventures has contracted for the launch of a satellite in 2009.[220]

116. Additional satellite radio capacity also could enter the market in the longer-run through de novo entry by new competitors using Wireless Communication Service ("WCS") spectrum, as described in more detail in the XM/Sirius Reply Comments.[221] Although this entry would take longer than two years, it nonetheless could provide some constraint on the incentive of the merged firm to attempt to exercise market power.

C. Internalizing the Dynamic Demand Spillover Externality

117. An efficiency benefit of the merger is that the merged firm will have an increased incentive to undertake demand-enhancing investments, including penetration pricing. It similarly will give the merged firm an increased incentive to undertake cost-reducing investments. This is because the merger will resolve a free-rider (*i.e.*, externality) problem by allowing the merged firm to obtain *all* the incremental satellite radio subscriptions generated by its low prices and other investment efforts. These efficiency benefits are merger-specific. Realizing these benefits would require complex coordination that would involve difficult monitoring and incentives issues, and likely would involve joint pricing. Thus, absent the merger, cooperation would be more difficult and would involve the same type of

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[217] *See* Charles L. Jackson, *Service and Spectrum Alternatives for Audio News and Entertainment Services* (July 24, 2007), attached to *Joint Reply Comments of XM Satellite Radio Holdings Inc. and Sirius Satellite Radio Inc.*, MB Docket No. 07-57.

[218] ICO Press Release, *ICO Selects Alcatel-Lucent and Hughes for Alpha Trial* (May 2, 2007), *available at* http://investor.ico.com/ReleaseDetail.cfm?ReleaseID=240320 (last visited July 12, 2007).

[219] Terrastar News Release, *TerreStar Files FCC Application to Modify its Satellite Launch Milestone* (June 8, 2007), *available at* http://www.terrestar.com/news/press.html (last visited July 12, 2007). *See also* Charles L. Jackson, *Service and Spectrum Alternatives for Audio News and Entertainment Services* (July 24, 2007).

[220] *See* http://www.msvlp.com/media/press-releases-view.cfm?id=126&yr=2007# (last visited July 20, 2007).

[221] *See* Charles L. Jackson, *Service and Spectrum Alternatives for Audio News and Entertainment Services* (July 24, 2007), attached to *Joint Reply Comments of XM Satellite Radio Holdings Inc. and Sirius Satellite Radio Inc.*, MB Docket No. 07-57.

competitive issues raised by the merger, but in the context of behavior by independent firms.

118. As discussed above, the market penetration of XM and Sirius is small and the firms are still in a growth phase. During this phase of the product life cycle, one benefit of gaining new subscribers is the dynamic spillover effect. Increasing the current subscriber level induces incremental future subscriptions by others. In such a dynamic environment, each firm has an increased incentive to undertake demand-enhancing investments, such as mounting advertising campaigns, improving the quality of its products and services, and investing in low penetration prices. Such investments lead to an increase in the firm's customer base, and thus create a dynamic spillover benefit by increasing the number of new customers that the firm will be able to attract in the future.

119. The demand-increasing investments undertaken by one satellite radio provider also generate dynamic spillover benefits *to the other satellite radio provider as well.* This raises a classic free-rider problem. That is, some consumers who learn about satellite radio from a subscriber of one service likely will purchase the other service, because they prefer the exclusive audio content of the other service or because only the other service is offered for the vehicle brand they are purchasing. This externality – the fact that a competitor captures some of the spillover benefits – is the source of the free-rider problem.[222] This free-rider problem limits to some degree the incentive of each firm to engage in such investments in the pre-merger world.[223] The externality also leads the firm to spend additional resources to limit the size of the externality, which raises the cost of such investments.[224] The merger will resolve the free-rider problem because the merged firm will internalize the spillover externality, increasing the incentive to invest. This investment incentive includes investment in penetration pricing, as explained technically in Appendix A. This is a pro-competitive efficiency benefit from the merger.[225] This increased incentive for penetration pricing will occur immediately following the merger. It is thus less likely that XM and Sirius will raise price or reduce investment post-merger than would be the case if the merger does not take place.[226]

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[222] If price decreases by one competitor tend to be matched by price decreases by another competitor, that competitive response does not resolve the free-rider problem. Each firm still disregards the demand benefit obtained from its investment by the other firm.

[223] Dennis W. Carlton & Jeffrey M. Perloff, MODERN INDUSTRIAL ORGANIZATION (2005) at 424.

[224] This would particularly apply to advertising. For example, pre-merger firms may inefficiently over-invest in brand-specific advertising and under-invest in generic advertising of satellite radio service.

[225] If a merger simulation model were applied, these (and other) efficiency benefits would need to be taken into account, along with the dynamic spillover effect and its associated effects on longer-run profit maximization. *Cf.* Sidak-II at ¶42.

[226] For example, a price increase by one firm would produce a negative externality on the profits of the other firm as it would reduce its future sales for two reasons. First, the higher price charged by one firm would reduce the firm's

120. A similar analysis applies to the increased incentive for cost-reducing investments. When a satellite radio provider decides how much to invest to reduce its variable costs, it would take into account that a cost reduction will allow it to charge a lower price and increase its current subscriber base. In addition, the satellite radio provider would take into account that the higher current sales will generate higher future sales due to the dynamic spillover effect. Therefore, it has a greater incentive to reduce variable costs than in the absence of the dynamic spillover effect. However, absent the merger, the firm would not account for the fact that the other satellite radio provider also benefits from the dynamic spillover effect. Again, the presence of this positive externality leads to a free-rider problem and somewhat reduces the firm's incentive to undertake such investments. The merger will resolve the free-rider/externality problem and thus will increase the incentive to invest in cost-reducing technologies.

121. As discussed earlier, the market will eventually mature and the incentives to exploit the dynamic demand spillover effect may then no longer be significant. At that time, however, the market will be subject to intense competition from wide availability of content over mobile broadband access technologies, more robust and widespread cellular networks, and other technological advances that will prevent the merged firm from exercising market power. In addition, the other efficiency benefits from the merger will deter price increases.

D. Reducing Production and Distribution Resource Costs

122. The merger will lead to significant merger-specific resource cost reductions, which will tend to reduce prices. Some of these cost savings will occur in the short-run and others in the longer-run. We understand that cost savings will be realized in a number of areas, including product development, device manufacture, customer care, retail distribution and marketing, broadcast operations, satellites, terrestrial networks, facilities, management and intellectual property. Achieving these cost-savings absent the merger would involve significant coordination or a joint venture that would be less effective and likely to lead to the same competitive concerns as a merger, leading to a conclusion that the savings likely are merger-specific.[227]

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subscriber base that popularizes the platform to non-subscribers, and thus would reduce the number of future subscriptions to satellite radio services. Some of these lost future subscribers would have chosen the other service, and thus the future sales of that other service would be lower. Second, if one firm were to raise price, some partially informed potential subscribers might not distinguish clearly between the prices of the two firms, but might perceive only that satellite radio generally is "high priced" or no longer is a good bargain. For example, a friend might complain about the higher price of his satellite radio service, without making precise that only one of the companies raised price.

[227] *See* Merger Commentary at 50 ("That an efficiency theoretically could be achieved without a merger – for example, through a joint venture or contract – does not disqualify it from consideration in the analysis. Many joint venture agreements or contracts may not be practically feasible or may impose substantial transaction costs (including monitoring costs). In their assessment of proffered efficiency claims, the Agencies accord appropriate

123. Some of the cost savings will involve costs that vary directly with the number of subscribers. Reducing purely variable costs would have an immediate effect on pricing incentives.[228] Other cost savings involve nominally fixed costs.[229] Some of these fixed cost savings involve increases in the efficiency of advertising and other demand-enhancing expenditures. The activities can be increased in order to increase product demand. For example, additional advertising will increase the demand for the service. Similarly, investing more in terrestrial repeaters will improve subscribers' service coverage. These investments in turn will lead to higher demand for the merged firm. If the merger increases the productivity of expenditures on these demand-enhancing activities, that factor would give the merged firm an incentive to increase competition and output by increasing the level of the demand-enhancing activities.[230] Under such circumstances, these cost savings will have output-enhancing effects, as do reductions in variable costs. Still other cost savings involve reductions in fixed costs that will increase the likelihood that the merged firm will remain viable in the longer-run and maintain longer term investment incentives. These fixed cost savings all would be treated as cognizable under the current merger enforcement policy.[231]

124. **[[REDACTED** [redacted]

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weight to evidence that alternatives to the merger are likely to be impractical or relatively costly.") The same point applies to several other of the efficiency benefits of the merger.

[228] The case of advertiser-supported channels raises a related two-sided market issue. When the merged firm offers a best-of-both content package, or combines similar channels into one channel that is broadcast on both systems, that strategy will increase the "reach" of the advertising sold on those channels by the merged firm. Greater "reach" increases the efficiency of these advertising spots to advertisers, which typically raises the price per listener. If this occurs, the increased advertising revenue stream per subscriber flowing to the merged firm will increase the incremental net revenue that the merged firm earns from selling an additional subscription. The higher revenue earned from the advertising-side of the market in turn will incentivize the merged firm to reduce the price of subscriptions on the subscriber-side on the market.

[229] Sometimes it is hard to precisely classify costs as fixed or variable. It is well known that certain costs that are often viewed as fixed tend to rise as the firm grows. And other fixed costs become variable in the longer run.

[230] Robert Dorfman & Peter O. Steiner, *Optimal Advertising and Optimal Quality*, 44 AM. ECON. REV. 826 (1954).

[231] *See* Merger Guidelines at § 4. *See also* Merger Commentary at 58 ("The Agencies consider merger-specific, cognizable reductions in fixed costs, even if they cannot be expected to result in direct, short-term, procompetitive price effects because consumers may benefit from them over the longer term even if not immediately"); *see also* Dennis W. Carlton, *Does Antitrust Need to be Modernized?* ECONOMIC ANALYSIS GROUP DISCUSSION PAPER, DOJ, EAG, 07-03 (Jan., 2007) at 5.

[redacted]]].[232]

E. Increasing Product Quality

125. The merger will improve the quality of each service by permitting the sharing of high-value content that is currently exclusive to a single service. Highly valued exclusive content will replace other lower valued content. This sharing will create a benefit to subscribers and will lead to more subscribers. These quality improvements will benefit all subscribers who highly value the new content, not just the additional subscribers who subscribe in response to the improved content. Although the merged firm may choose to charge a higher price for a service tier with better content, the quality-adjusted price is likely to fall because the merged firm likely will want to increase penetration.[233]

126. These benefits are merger-specific. The high-value content is not shared in the pre-merger world. Nor would such sharing be likely absent the merger. This type of content sharing would lead to classic promotional free-riding problems. In addition, achieving these benefits as independent firms absent the merger might violate agreements with content providers, and in any case would raise the same competition issues as does the merger.

127. The merger will increase the introduction and promotion of interoperable radios, leading to product quality improvements. Because satellite radio companies subsidize the cost of receivers, their business models are premised on the subscriber purchasing service for a period of time in order to recoup the equipment subsidy. That type of product promotion for interoperable radios generates classic free-rider problems. For example, if XM were to subsidize or promote an interoperable radio, Sirius would gain some of the benefits when some of the new subscribers chose Sirius instead of XM, and vice versa. Thus, Sirius and XM today have limited incentives to subsidize or advertise the sale of interoperable radios. The merger resolves these free-rider problems. As a result, the incentive to subsidize and advertise interoperable radios will increase after the merger. Thus, the merger will

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[232] Sidak claims that reductions in fixed costs are not merger specific because "XM and Sirius could achieve the same efficiency by declaring bankruptcy and eliminating their debt." Sidak-II at ¶39. The notion that bankruptcy offers the same benefits to firms and consumers as a reduction in costs, without any negative effects on firms and their ability to serve customers (such as increasing their future costs of raising capital or reducing investment) is economically flawed.

[233] For examples from other industries, *see* Arthur Fishman & Rafael Rob, *Product Innovations and Quality-Adjusted Prices*, 77 ECONOMICS LETTERS 393, 393 (2002).

facilitate the more rapid introduction of interoperable radios as well as a lower retail price of these radios.[234]

128. There also may be product quality improvements resulting from resource cost reductions. For example, the merger will reduce the effective cost of adding terrestrial repeaters because repeaters for the Sirius network can be co-located at legacy XM locations. This will reduce the cost of adding repeaters, which will increase the incentive to add more repeaters. More repeaters will increase the quality of the network, which in turn will increase the demand for the satellite radio service. The same analysis would apply to improving the broadcast quality and number of channels through investment in better technology, if the merger raises the efficiency of investments or reduces investment costs.[235]

F. Reducing Content Acquisition Costs

129. Some programming offered by Sirius and XM is self-produced. Other content is acquired. The merger likely will reduce the merged firm's cost of acquiring content. Some of these cost savings will involve reductions in fees leveled on a per-subscriber basis. Others will involve reductions in lump sum payments. As discussed below (and in Appendix B), both types of cost-reductions will give the merged firm the incentive to reduce subscription prices, *ceteris paribus*. These cost-savings are procompetitive efficiency benefits.[236]

130. Some Comments deny these efficiency benefits. They claim instead that these cost savings would involve the anticompetitive exercise of monopsony power by the merged firm.[237] This monopsony claim is incorrect for the same reasons just described, namely that these cost-savings are procompetitive efficiency benefits that will lead to lower subscription prices paid by satellite radio subscribers and an increase in the number of satellite radio subscribers.

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[234] The procompetitive efficiency benefit is merger-specific. In order to solve the free-rider problems absent the merger, the two independent firms would need to agree on the price of interoperable radios, the promotion levels by each firm, and perhaps also would need to share revenues. This cooperation by independent firms would raise monitoring costs. *See* Merger Commentary at 50. Contrary to Sidak's claim (*see* Sidak-II at ¶33), interoperable radios will offer consumers value after the merger. They will facilitate more rapid access by consumers to programming transmitted over the different satellite platforms now used by the companies and, when in general use, will allow the merged firm to cease transmitting the same channels over both satellite systems and instead to use the capacity to deliver more services to consumers.

[235] Absent the merger, this cooperation would require a complex joint venture, possibly including revenue sharing. Thus, the procompetitive efficiencies are merger-specific.

[236] The benefits are merger-specific because the merger would resolve promotional free-rider problems that would arise if two independent firms were carrying and promoting identical content. In addition, coordination of purchasing behavior by independent firms would raise the same potential competitive concerns about cooperative purchasing and price-setting that are raised when the firms fully integrate through a merger.

[237] Common Cause Petition at 45-46. NAB Petition at 31.

131. First, some content price reductions may reflect increased value obtained by content providers. For example, consider the situation of advertiser-supported content, where the content providers sell the advertising.[238] In this situation, when the merged firm offers this content as part of a best-of-both content package, that strategy will increase the "reach" of the advertising on those channels. That higher "reach" would increase the efficiency of advertising spots to advertisers, which typically raises the per listener (or per subscriber) price in the market for the sale of advertising spots. If this occurs, the per-subscriber advertiser revenue stream flowing to the content provider will increase. Because content providers compete to sell their content to satellite radio services, this revenue increase in turn will lead them to set lower prices for their content. Thus, the content costs of the merged firm will fall, which consequently will incentivize the merged firm to reduce the price it charges for subscriptions.

132. Second, unlike standard monopsony analysis, a reduction in the rights fees paid by the merged firm for most of the content likely would not compromise its creation. For example, the NFL will not play or broadcast fewer games if they receive a smaller payment from the merged firm. That payment is a very small fraction of the total NFL revenue. In this situation, a reduction in the payment will not lead to any reduction in programming. When content is provided inelastically in this way, there can be no monopsony output distortion.[239]

133. Third, lower payments for content likely would lead to the incentive for a lower retail subscription price and a larger number of subscribers, in contrast to the situation in anticompetitive monopsony. This is because the process for acquiring this content likely involves an efficient bargaining process, not monopsonistic price setting. This lower price and increased output causes consumer benefits. This result is simplest to see when content payments are structured explicitly on a per subscriber basis. In this situation, lower content payments imply that the satellite radio provider achieves a lower marginal cost of adding subscribers. This result would lead simply and directly to an incentive to lower price and increase output.[240]

134. When demand is dynamic (*i.e.,* involves dynamic spillovers), a more complex analysis implies the same beneficial impact on price and output, even when the competitive process

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[238] A previous note analyzed the case of advertising spots sold by the satellite radio companies.

[239] Roger D. Blair, David L. Kaserman & Richard E. Romano, *A Pedagogical Treatment of Bilateral Monopoly*, 55 S. ECON. J. 831 (1989).

[240] Structuring payments on a per subscriber basis often is an efficient way to deal with uncertainty over the total value of the content to the distributor, and the number of subscribers can be a useful metering device. Per subscriber payments for cable programming content are common. For a technical analysis of this issue, *see* Jean Tirole, THE THEORY OF INDUSTRIAL ORGANIZATION (MIT Press 1990) at 176-78.

of bidding for content against other radio networks and bargaining with content owners involves lump sum payments.

- As explained in technical terms in Appendix B, when demand is dynamic, these lump sum payments are fixed costs *ex post* but variable costs *ex ante.* That is, prior to signing the contract with the content owner, a satellite radio provider can affect the amount of the lump sum that it will pay to the content owner by undertaking (or not undertaking) certain actions or investments that will affect the value of that content.
- As discussed earlier, the dynamic spillovers give the merged firm (and – to a lesser extent – the individual firms in the pre-merger world) the incentive to engage in penetration pricing and other investments. Having additional subscribers will increase the value of particular content, which will lead in turn to a higher lump sum payment to the content provider in the future, *ceteris paribus*. Thus, the anticipation of these higher future lump sum payments (as a result of the increased number of future subscribers) dampens to some degree the incentive to engage in penetration pricing, relative to the situation where the payment would be a truly fixed cost.
- This economic analysis implies that the merger will lead to an increased incentive for penetration pricing and other investments that increase demand. If a merger-induced reduction in bidding competition for exclusive content also causes the content owner to receive a smaller fraction of the value of the content (in the form of a lower lump sum payment) after the merger, then the merged firm will be able to anticipate higher future incremental profits. These higher incremental profits will give the merged firm an increased incentive to engage in more penetration pricing, promotion, and other demand-enhancing investment. This competitive conduct will lead in turn to lower subscription prices and more subscribers. This analysis also implies that consumers will benefit from reducing the bidding competition for such exclusive and high-value content.

135. For content whose supply is somewhat elastic, reduced payments could lead to marginally less content being provided by the particular supplier.[241] However, this reduction is certainly not inevitable and would not be likely. If programming prices are individually negotiated with each content supplier in an efficient bargaining process, then there is a greater likelihood that the negotiations would lead to no reduction in supply, simply a reduced payment for inframarginal content.[242] In contrast, in situations where the negotiations involve less information, the amount of content offered might be reduced for some suppliers. This would involve reduced subscriber benefits and a marginal effect on

[241] For content that is provided perfectly elastically, there also would be no reduction in supply if the merged firm negotiates a lower lump sum price. There also is no incentive for monopsony purchase (or output) reductions when supply is perfectly elastic.

[242] As a technical economic matter, this would correspond to the use of non-linear content prices.

the number of subscribers. However, these impacts likely would be outweighed by the other beneficial effects identified above – the incentives for lower subscription prices and increased promotion, and the benefits of sharing the exclusive content.

136. For these reasons, satellite radio subscribers will benefit from the effect of the merger on the merged firm's cost of acquiring content. This same analysis also demonstrates that there should be no concern that consumers will be harmed from the exercise anticompetitive monopsony power. When monopsony power is exercised, output falls, consumer prices rise and consumers are harmed. That is not the case here. There likely is an efficient bargaining process that will increase output and reduce satellite radio prices instead.

137. Finally, in the near future, one factor likely will increase competition for content. As HD Radio increases its penetration and channel capacity, terrestrial radio networks will become more aggressive bidders for content. Their ability to bid for content also will be enhanced if HD radio networks have the choice of offering content on a subscription basis. This will intensify competition for content among satellite and terrestrial radio networks and syndicators. In addition, other audio content distributors also might be able to bid for high-value content. The same content also can be distributed by wireless phone carriers or sold through podcasts and over the Internet, and the demand for content by these audio entertainment providers is likely to grow significantly regardless of the merger. This increased competition among audio entertainment providers likely will lead to higher revenues for content owner over time, *ceteris paribus.* It is even possible that the merger could increase the revenues of certain content owners *even further*, despite the fact that XM and Sirius would no longer compete against each other for the content. This is because the merged firm might be willing to pay a larger amount for the exclusive rights to particular audio content than either XM or Sirius would be willing to pay on their own.[243] This increased competition is not anticompetitive exclusion, despite the claims in some Comments.[244] The market share of terrestrial radio is many times larger than the share of

[243] Since the merged firm would be able to offer the content to all the XM and Sirius subscribers, the value of the content would be higher because it could be sold to more subscribers. In a bargaining context, this higher value could translate into a higher payment for the content. Similarly, in a bidding context, the higher value of the content also could lead to higher revenues for the content owners. This is because the merger would have the effect of replacing two relatively weak bidders (*i.e.*, XM and Sirius) with a single, more aggressive bidder (*i.e.*, the merged firm) vis-à-vis other bidders. As a result, bidding competition would be more intense and would lead to higher revenues for content owners. For example, consider a situation where the merged firm would win the bidding competition for a particular audio content, but neither XM nor Sirius would have been able to win the bidding in the absence of the merger, say, because they would have lost to an HD radio network. In this situation where the merged firm would outbid the HD radio network, the content owner would obtain more revenue. (In fact, the content owner could benefit even if the merged firm would not win the bidding competition. In this scenario, the merger would intensify the competition between the "final two" (*i.e.*, the HD radio network and the merged firm) and the content owner would benefit regardless of which bidder would prevail in the bidding.)

[244] Clear Channel Comments at 8.

the merged firm. The merged firm is not well-situated to use "anticompetitive overbuying" of inputs to achieve monopoly power in the audio entertainment market, or even in a hypothetical radio market comprised solely of terrestrial and satellite radio.[245]

G. Reducing Automobile OEM Distribution Costs

138. The merger likely also will reduce the merged firm's cost of securing distribution of their radios through the automotive OEM channel by lessening the bargaining leverage of auto makers and increasing the demand for satellite radio. These cost savings are procompetitive efficiency benefits that will lead to lower satellite radio prices and consumer benefits.[246]

139. As in the case of content acquisition, some Comments deny these efficiency benefits. They claim that these cost savings instead would involve the anticompetitive exercise of monopsony power by the merged firm.[247] This monopsony claim is incorrect for the same reasons described above, namely, that these cost-savings are procompetitive efficiency benefits that will lead to lower prices paid by satellite radio subscribers and an increase in the number of satellite radio subscribers.

140. First, virtually all vehicle manufacturers currently work with only a single satellite radio provider. One reason is that offering radio equipment for two different services would increase the manufacturers' costs.[248] After the merger, we understand that the merged firm will have the ability and incentive to reduce these costs. Not only will this increase the quality of the products received by subscribers, but it also will improve the value to OEMs, which then would lead to lower distribution costs for the merged firm as this increased value is shared through the bargaining process. By obtaining some of this value, the merged firm's payments to OEMs can be reduced, thereby reducing its costs. In addition, if superior content packages and interoperable radios lead to more auto purchasers deciding

[245] *See* Steven C. Salop, *Anticompetitive Overbuying by Power Buyers*, 72 ANTITRUST L.J. 669 (2005). The NAB particularly raises the concern that the merged entity would be able to force content providers, like sports programmers, to deal only with satellite radio. NAB Petition at 31-32. The current sports exclusives of XM and Sirius operate only against each other, not against other audio entertainment products. In satellite TV, DirecTV has NFL Sunday Ticket, which is a partial exclusive; other MVPDs also carry some NFL games. More importantly, it is doubtful that DirecTV has achieved market power in the MVPD market as a result.

[246] These efficiency benefits are merger-specific because coordination of purchasing behavior by independent firms would raise the same type of potential competitive concerns about cooperative procurement that are raised in the context of the merger.

[247] Common Cause Petition at 46.

[248] These costs would include the additional costs of engineering new car models in a way to accommodate different types of receivers. They also would include additional inventory and logistical costs of manufacturing required to have cars available with both types of radios so that consumers could choose. [[**REDACTED** [redacted]]].

to pay for satellite radio subscriptions, that fact also will increase the overall returns to the OEMs for the cost of installation. The merged firm also could share in this value through a correspondingly lower activation payment, which would further reduce its variable costs.

141. Second, cooperative bidding for content by the merged firm likely will lead to lower subscription and equipment prices to subscribers.[249] There currently are a number of components of the payments made by Sirius and XM to the vehicle manufacturers, including payments for the number of radios installed and/or the number of radios activated, as well as subscription revenue-sharing. A few manufacturers also receive lump sum payments. Reducing payments for radios installed and activated would reduce the variable costs of the satellite radio services, which would lead to lower subscription prices. Revenue-sharing acts like an excise tax, so that reducing the revenue-share would also incentivize the merged firm to reduce subscription prices, especially as OEM subscribers become a larger proportion of all subscribers. Reductions in lump sum payments also would have a beneficial effect on prices as a result of the dynamic demand and penetration pricing analysis, as discussed in Appendix B. Thus, satellite radio subscribers would benefit from reducing these payments. These cost-saving benefits are significant because the OEM channel represents over half of new satellite radio subscribers (net additions) today and the percentage is rising over time.[250]

142. The auto OEMs will retain some bargaining leverage after the merger. Failure to reach an agreement with an OEM would harm the merged firm as well as the OEM. In addition, the auto OEMs will have alternative devices to offer purchasers, even aside from CD players and AM/FM radios. In this regard, the auto OEMs can offer – and in many cases already are offering – iPod/MP3/wireless phone integration, HD radios and Internet connections.[251] Even if the merger failed to lessen the bargaining leverage of the auto OEMs, the merged firm's economics of OEM distribution should improve. The merger likely will lead to several efficiencies that will lead to an increased percentage of new car buyers deciding to subscribe to satellite radio.[252] This means that fewer cars will have installed but unactivated

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[249] *Cf.* NAB Petition at 31 and Sidak-I at 41-43.

[250] There might in principle be some offsetting price-raising effects on new vehicles. However, there is no reason to conclude that this effect would exceed the direct effect that lower OEM payments would have on reducing the satellite radio subscription prices to subscribers, particularly since only about half of new automobile purchasers opt to subscribe for satellite radios installed in their new vehicles once the trial period ends. This type of multi-market welfare balancing also raises knotty antitrust issues. *See generally* United States v. Philadelphia Nat'l Bank, 374 U.S. 321 (1963).

[251] As discussed above, it is not necessary to attach conditions to the merger preventing integration or installation agreements between the merged firm and auto OEMs.

[252] In particular, as discussed in earlier, there will be increased incentives for penetration pricing and other investments, including promotion, as well as cost savings and quality improvements.

satellite radios. Future negotiations likely would lead to the merged company sharing in these benefits, aside from any issues of changing bargaining leverage.

H. Reducing Retail Distribution Costs

143. The merged firm's resource costs used in retail distribution will fall from the merger. The merger will reduce the retailers' costs and increase their value of selling satellite radio in various ways. Rationalization of equipment offerings will allow retailers to economize on retail square footage, which will reduce the retailers' opportunity costs of space, and also on storage and inventory costs. Superior content and product quality also will lead to more retail sales, which will further reduce the retailer's opportunity costs of the space. The merged firm will be able to share in the retailers' benefits, which in turn will reduce the merged firm's costs of retail distribution per unit and per subscription sold. In essence, the retailers will be able to accept lower gross margins because they will earn higher profits per square foot.[253]

144. The merged firm is unlikely to gain bargaining leverage over retailers. The retailers will continue to have the alternative of using their space to sell many other popular audio entertainment devices, including car stereos, iPods and other MP3 players, and HD radios. The retailers also can choose to use their space to sell some different types of equipment, such as cameras, televisions and home theater equipment, computers, and so on.

I. Conclusions on Competitive Effects

145. Taking all of this analysis into account, it is not likely that the merger will lead to adverse unilateral price or quality effects. The merger will resolve the free-rider problem inherent in the dynamic demand spillovers, increasing the incentives of the merged firm to maintain low penetration prices or even reduce them. The merger also will lower real prices and increase output by facilitating the cost reduction efficiencies and product quality synergies detailed above. For the same reasons, the merger will lead to increased demand-enhancing investment incentives by the merged firm. These efficiency benefits likely also will have a procompetitive effect of spurring further innovation and investment by other audio entertainment competitors. This analysis suggests that the merger likely will increase competition and consumer welfare, despite the fact that competition between Sirius and XM will be replaced with cooperation, and even if the market is erroneously defined narrowly.

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[253] The benefits are merger-specific because coordination of purchasing behavior by independent firms would involve a joint venture that would raise the same potential competitive concerns as the merger. Merger Commentary at 50.

146. This conclusion is reinforced by the fact that the main opponent of the merger is the NAB. The NAB has claimed that the merger will lead to a monopoly in an alleged satellite radio-only market and have anticompetitive effects. But, the NAB also has claimed that the merger will lead to an increase in the number of satellite radio listeners at the expense of terrestrial radio broadcasters.[254] This latter claim suggests that the merger would be procompetitive, not the opposite.[255] The NAB's position is logically inconsistent. If the merger leads to increased satellite radio output from lower prices, then consumers would benefit. If the merger instead were to lead the merged firm to raise price, then broadcasters would benefit from the merger. In this regard, Judge Posner has written that competitor complaints are a "telling point" that supports the view that a merger is lawful.[256] Judge Posner's economic reasoning is directly applicable here, in light of the absence of realistic anticompetitive exclusion effects.

147. Instead of providing credible evidence against the merger, the vociferous NAB opposition suggests two conclusions, both of which support the merger. First, there is sufficient substitution between terrestrial radio and satellite radio for the NAB to care deeply about the merger, a fact that suggests that it would be erroneous to treat this as a merger to monopoly in a narrow satellite radio market. The NAB has a long history of objecting to the effect of satellite radio on terrestrial radio, including its effect on the listening audience for terrestrial radio. For example, in 1995, the NAB stated that "The primary audiences of local radio and satellite radio are the same: home/office/auto. They will compete directly for local market share."[257] In 2004, when complaining about the threat of satellite radio to terrestrial radio broadcasters, the NAB similarly stated that XM and Sirius have "devoted substantial bandwidth to compete directly with local broadcasters."[258] In 2004, in a Petition for a Declaratory Ruling, the NAB referred to studies that it claimed provided evidence of

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[254] David K. Rehr, *Statement Before the United States House of Representatives Committee on the Judiciary Antitrust Task Force* (February 28, 2007) at 17.

[255] The situation would be different if the merger gave the merged firm control over an input needed by rivals, as in the case of a vertical merger or a dominant firm that can force suppliers to exclude its rivals. *See generally* Thomas Krattenmaker & Steven Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Gain Power Over Price*, 96 YALE L.J. 209 (1986).

[256] As stated by Judge Posner, "Hospital Corporation's most telling point is that the impetus for the Commission's complaint came from a competitor." Hospital Corporation of America v. Federal Trade Commission, 807 F.2d 1381, 1391-92. Judge Posner goes on to explain that "[t]he hospital that complained to the Commission must have thought that the acquisitions would lead to lower rather than higher prices -- which would benefit consumers, and hence, under contemporary principles of antitrust law, would support the view that the acquisitions were lawful." *Id. See also* William J. Baumol & Janusz A. Ordover, *Use of Antitrust to Subvert Competition*, 28 J. OF L. & ECON. 247 (1985).

[257] National Association of Broadcasters, *The Truth About Satellite Radio, Attachment*, Reply Comments of the NAB, Gen. Docket No. 90-359 (October 1995) at 2.

[258] *NAB Petition for Declaratory Ruling*, IB Docket No. 95-91, Gen. Docket No. 90-357 (Apr. 2004) at 17. *See also* Hazlett at Appendix 1.

how terrestrial radio "could be severely impacted by diversion of the audience to SDARS."[259] Second, the NAB's opposition suggests that the likely effect of the proposed merger is to increase competition by making the satellite radio a more vigorous and effective competitor.

148. In his testimony before the U.S. House of Representative, NAB President and CEO, David Rehr, noted what he viewed to be an anticompetitive effect of the merger:

> Beyond harming consumers, a satellite radio monopoly would have the incentive and the opportunity to engage in unfair competition and anticompetitive practices against other audio service providers, especially radio broadcasters ... the monopoly will attempt to accelerate the acquisition of new subscribers by offering them a lower-cost point of entry – likely a basic advertiser-supported tier offered for less than the current \$12.99 per month. On its face, such a plan may not sound bad, but of course no introductory price would be locked in and a monopoly provider could easily raise this price at a later time to increase profits at the expense of consumers. [260]

To an economist, the purported harms described by Rehr sound more like the consequences of an aggressive and more efficient satellite radio competitor offering a lower price to attract current AM/FM customers, not like a monopolist restricting its output and raising its subscription price. In fact, the AAI cited this specific quote in its submission, noting that "Some of its statements suggest that the NAB does anticipate consumer benefit."[261]

149. In a surprising twist, however, the AAI speculates that the NAB's opposition conceivably may not be anticompetitively motivated. The AAI's various arguments, however, are economically flawed.[262] First, the AAI suggests that the anticompetitive effect might be to attract investment away from terrestrial radio or be a more formidable competitor in the advertising market by becoming a more attractive advertising location. From an economic point of view, however, these effects would be procompetitive in the advertising market, not the opposite. Second, the AAI suggests that the anticompetitive effect of the merger might be to "exclude broadcasters" by permitting the merged firm to outbid broadcasters

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[259] *NAB Petition for Declaratory Ruling*, IB Docket No. 95-91 Gen. Docket No. 90-357 (Apr. 2004) at 8. Sidak suggests that the NAB opposition is explained solely by a concern that a combined XM-Sirius would compete in the advertising market. Sidak-II at ¶51. In light of the NAB's past positions, as illustrated by these various quotations, it would be surprising, however, if the NAB were concerned *only* about the effects of the merger on the advertising market and not also about its effects on satellite radio subscriptions and terrestrial radio's listening audience.

[260] David K. Rehr, *Statement Before the United States House of Representatives Committee on the Judiciary Antitrust Task Force* (February 28, 2007) at 17.

[261] AAI Comments at n.95.

[262] *Id.* at 28-29.

for content exclusives.[263] This is in direct contrast to the NAB, which said that it was concerned with the effect of the merger "to eliminate the need to compete with another national service provider to acquire programming and talent that wish to reach the national audio market."[264] Third, the AAI suggests that the NAB's expressly anticompetitive statement perhaps could be excused because the NAB might "be mistaken" in its perceptions that consumers actually will benefit from the merger, or because broadcasters have a "tribal-like" hostility to satellite radio that leads them to misperceive their own competitive interest in cartelization.[265] In contrast to the AAI, economic analysis would treat the NAB as a rational association of competitors acting in the economic interests of its members.

150. Sidak also suggests that the NAB's opposition is not anticompetitive.[266] But, his analysis is based on a faulty understanding of the "two-sided market" interaction of the sale of advertising and subscriptions. As discussed already, the merger will increase the value to advertisers of those advertiser-supported channels now offered by Sirius and XM. An increase in advertising revenue per subscriber would increase the value to the merged firm of obtaining additional subscribers. This higher value would give the merged firm the incentive to reduce the subscription price. Of course, both of these effects are procompetitive. These lower prices would benefit consumers and advertisers. The broadcasters also would be concerned that the more efficient merged company will attract more subscribers, which also will lead to the terrestrial radio stations obtaining less advertising revenue. Thus, while Sidak may be right that broadcasters are "understandably concerned that a combined XM-Sirius would divert advertising dollars away from radio stations," their concern nonetheless is anticompetitive.[267]

151. Sidak also claims that the merged firm plans to dramatically increase advertising, and that this new strategy would impose large welfare losses on subscribers.[268] Sidak's calculation is *ad hoc*, relies on unsupported and unreasonable assumptions, and ignores the unprofitability of the assumed behavior. First, he assumes that the number of ads will increase by 5 minutes per hour, apparently on every channel offered by the merged firm, and that the merged firm will change the "commercial-free nature of the service," a set of

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[263] *Id.* at 29.

[264] David K. Rehr, *Statement Before the United States House of Representatives Committee on the Judiciary Antitrust Task Force* (February 28, 2007) at 3.

[265] AAI Comments at 28-29.

[266] Sidak-II at ¶¶50-51.

[267] Sidak-II at ¶51.

[268] Sidak-II at ¶¶43-44.

assumptions that is arbitrary and not supported by the speech cited by Sidak.[269] Second, he assumes that half of each subscriber's willingness-to-pay for satellite radio arises from avoiding commercials, an assumption that is arbitrary and unsupported, as discussed earlier.[270] Third, his analysis is implemented incorrectly, even on the basis of these assumptions. In particular, Sidak ignores the fact that the higher "effective price" from adding commercial minutes would lead to a substantial predicted subscriber loss in his model.[271] In fact, his model predicts a subscriber loss of more than 33%. Fourth, his analysis overlooks the huge impact of this 33% subscriber loss on the profitability of the assumed advertising strategy. The 33% subscriber loss implied by his analysis would make the assumed strategy highly unprofitable. The merged firm would lose the subscription revenue from a third of its subscribers. It also would sacrifice the current advertising revenue earned on the basis of those subscribers. Its advertising price also would fall, because the advertising would reach total audiences that were a third smaller.[272] Thus, his welfare estimate makes no economic sense.

V. PRICE DISCRIMINATION AGAINST SUBSCRIBERS IN AREAS WITH LIMITED AM/FM COVERAGE

152. Comments have raised another way in which they allege that the merger might eliminate competition and harm consumers – that the merged firm would engage in price discrimination against subscribers in geographic areas with limited AM/FM coverage.[273] Our economic analysis shows price discrimination does not raise a significant competitive concern.

153. As discussed previously, our analysis of the relationship between satellite radio penetration and the number of terrestrial radio stations supports the conclusion that these two audio entertainment products belong in the same relevant market. This raises the issue of

[269] XM and Sirius already have channels that carry advertisements. [[REDACTED [redacted]]]. We understand that the firm does expect that it will be able to charge a higher CPM (cost per thousand) for commercials on the advertiser-supported channels because their "reach" will increase, which will increase the value of advertising spots to advertisers. *See* Thomson StreetEvents, *Final Transcript: Siri-Sirius (sic) Satellite Radio & XM Satellite Radio to Combine in Merger of Equals* (February 20, 2007), *available at* http://online.wsj.com/documents/transcript-xmsr-20070220.pdf (last visited July 17, 2007).

[270] In fact, some advertising-supported channels are extremely popular. If commercials were so disliked by all subscribers, then subscribers would avoid those channels, given the choice on satellite radio.

[271] The subscriber loss is easiest to see in his discussion of the welfare of the "marginal subscriber." By definition, the marginal subscriber's value for satellite radio just equals the subscription price, so if the value of the service falls, there would be no welfare cost. Instead, the subscriber would deactivate the service.

[272] Sidak obviously also ignores any welfare benefits from increasing competition in the advertising market.

[273] Consumer Coalition for Competition in Satellite Radio, *Consumer Vulnerabilty to a Satellite Radio Monopoly in Rural, Unserved and Underserved Geographic Markets* (July 9, 2007) (hereinafter "C3SR Paper"). Sidak-II at ¶25.

whether a merger between Sirius and XM would harm people in areas that have only a very limited selection of AM/FM radio stations. The competitive issue for merger analysis is not how many consumers live or travel in areas with a very limited selection of AM/FM stations, or whether such areas should be labeled as "unserved" or highly "underserved" by terrestrial radio.[274] The competitive issue is whether the merged firm likely would have the incentive to price discriminate against subscribers in those geographic areas with limited AM/FM coverage. Our analysis shows that price discrimination would not be profitable in areas with the most limited AM/FM coverage because the fraction of the population in such areas is too small to support an attempt to profit from an imperfect and costly price discrimination strategy. Expanding price discrimination to cover areas receiving somewhat more AM/FM stations would not be profitable because satellite radio penetration would not differ enough from that for the rest of the population to overcome the costs and offset the imperfections of the strategy.

154. Some Comments have attempted to draw an analogy between the proposed satellite radio merger and the earlier proposed merger of DirecTV and Echostar.[275] The analogy is weak and the differences between the two services indicate that post-merger price discrimination is unlikely in satellite radio. One reason is that satellite radio penetration is substantially lower than satellite TV penetration, suggesting that satellite radio faces more competition or is viewed by consumers as more dispensable than satellite TV or both. Even in these areas, consumers have the option of listening to audio on CDs, iPods and other MP3 players, and wireless phones.

155. According to a recent GAO Report, national penetration of satellite TV was 17.4% of households.[276] National satellite radio penetration at the end of 2006 was much less, only

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[274] C3SR says that areas that receive up to 5 stations are "areas where local radio service is effectively unavailable," labeling them as "unserved," and that areas with 6 to 15 stations are "areas where local radio service is thinly available," labeling them as "underserved." C3SR Paper at 5, 7. C3SR does not, however, provide any justification for choosing these particular thresholds.

[275] *See, for example,* NAB Petition at 3, 8, 42, and 47; Comments of Clear Channel Communications, Inc. MB Docket No. 57-07 (July 9, 2007) at 4-5. *See also* Federal Communications Commission, *Application of EchoStar Communications Corporation and Hughes Electronics Corporation, Hearing Designation Order*, CS Docket No. 01-348 (October 18, 2002) at ¶275 ("at best resulting in a merger to duopoly and at worse a merger to monopoly"); and Separate Statement of Chairman Michael K Powell ("case against approving the transfer application is particularly compelling with respect to residents of rural America who are not served by any cable operator."); and Department of Justice *et al.*, *Complaint*, Case Number 1:02CV02138 – 10/31/2002, *available at* *http://www.usdoj.gov/atr/cases/f200400/200409.pdf* (last visited July 17, 2007), at 32 ("There are million of households in the United States for which DTV and DISH are the only competitive MVPD options"); *see also Id.* at 37 ("the two DBS services are the only competitive option for MVPD service in uncabled areas").

[276] General Accounting Office, *Direct Broadcast Satellite Subscribership Has Grown Rapidly, but varies Across Different Types Of Markets*, GAO-05-257 (April 2005) (hereinafter "GAO") at 3, 6.

about 4.5% of population.[277] Moreover, the GAO Report found that in uncabled areas, the penetration rate for satellite TV was almost 68%, about 4.5 times larger than the satellite TV penetration rate in cabled areas of 15%.[278] Here, the contrast between satellite TV and satellite radio is sharp. Table B1 in Exhibit B shows that satellite radio penetration in 2006 was **[[REDACTED]]**% in areas that received two or fewer AM/FM stations, **[[REDACTED]]** the 68% penetration rate of satellite TV in uncabled areas. **[[REDACTED** [redacted]]]

156. The facts for satellite radio differ from satellite TV in a second important way: far fewer satellite radio customers lack a terrestrial radio alternative than the number of satellite television customers lacking access to cable television. This provides another reason that price discrimination incentives are much lower for satellite radio. Only 0.2% of U.S. population lives in areas receiving two or fewer AM/FM stations, compared to the nearly 9% of U.S. households in uncabled areas. The fractions of population living in areas receiving at most six or nine AM/FM stations (2.0% and 5.5% respectively) are somewhat higher. But, **[[REDACTED** [redacted]]]. This difference **[[REDACTED]]** the 53 percentage point difference between DBS penetration of 68% of households in areas with cable television service versus 15% in areas without cable service.

157. These facts suggest that price discrimination in satellite radio is unlikely to be profitable and so is not likely to be attempted. On the one hand, in areas with a very small number of AM/FM stations, the benefits would be very limited because so few subscribers would be targeted. On the other hand, if the scope of the discrimination were increased to target subscribers (for example, those in areas with nine or less AM/FM radio stations instead of six or less), the potential profitability would be reduced because the difference in penetration rates between the targeted and untargeted groups would narrow. The average penetration rate in areas with nine or fewer AM/FM stations is **[[REDACTED]]** in areas with more AM/FM stations, a difference of **[[REDACTED]]**. (**[[REDACTED** [redacted]

[277] Satellite radio penetration of population calculated from information on end of 2006 subscriber totals (from XM and Sirius Form 10-K data) and total U.S. population from U.S. Census Bureau News, *Census Bureau Projects Population of 300.9 Million on New Year's Day* (December 28, 2006), *available at* http://www.census.gov/Press-Release/www/releases/archives/population/007996.html (last visited July 12, 2007).

[278] *See* GAO at 9-10; *see also* 21, where the report concludes that the survey data on which these findings were based "were sufficiently reliable for the purposes of this report." These numbers, and the result cited below that just under 9% of U.S. households are in uncabled areas, imply national penetration for satellite TV a little under 19.8%, somewhat higher than the 17.4% figure the GAO reports for national penetration. Note, however, that the GAO relies on different sources for its figures on national penetration and on penetration rates in areas with versus without satellite TV service.

[redacted]].) This [[**REDACTED** [redacted]]] is unlikely to form the basis of profitable price discrimination. Thus, these two opposing factors create a no-win price discrimination scenario.

158. For example, The C3SR submission labels areas with 15 or fewer terrestrial radio stations as "underserved" by terrestrial radio. According to our analysis, approximately 17% of the U.S. population lives in these areas. C3SR claims that this group is most likely to be harmed by the proposed merger.[279] Price discrimination is only profitable, however, if one group is willing to pay significantly more than another. An analysis of data on satellite radio penetration rates – data that C3SR did not have – does not suggest a substantial difference in average willingness-to-pay. Based on the data that we have collected, the average satellite radio penetration rate for areas with 15 or fewer terrestrial stations is **[[REDACTED]]**. The average penetration rate for all areas with more than 15 stations is **[[REDACTED]]**. This **[[REDACTED]]** is unlikely to be large enough to support profitable price discrimination, in light of the costs and imperfections inherent in such discrimination. **[[REDACTED** [redacted]]].[280]

159. More generally, a price discrimination strategy likely would be unprofitable because it would be imperfect and costly to implement for the following six reasons.

- First, the price discrimination strategy would be imperfect because people do not necessarily drive and listen where they live. Some fraction of consumers targeted for higher prices by their residential ZIP codes actually may do most of their listening while driving in ZIP codes with a large number of AM/FM stations.[281] The reverse also is possible, that consumers favored with lower prices on the basis of their residential ZIP codes actually may do most of their listening while driving in ZIP codes with only a few AM/FM stations.

- Second, the price discrimination strategy would be imperfect because of arbitrage. Some fraction of the targeted subscribers would be able be able to obtain a lower prices by using a ZIP code in an untargeted area, for example, their business address. This

[279] *See* C3SR Paper at 5.

[280] As discussed below, the variation in penetration rates across targeted areas also is relevant to the profitability of price discrimination. **[[REDACTED** [redacted]]]. This suggests that such price discrimination would be highly imperfect.

[281] C3SR claims that the existence of areas "unserved" or "underserved" is "significant not only to the residents of these areas but especially to those who travel the roads in these areas." C3SR Paper at 5. But the merged company would find it very difficult to accurately identify which of the consumers who live in areas with more abundant terrestrial radio coverage do or do not travel regularly through areas with more limited coverage. If the merged company cannot accurately identify such travelers, it cannot profitably price discriminate against them.

imperfection would reduce the potential profitability of the strategy because those arbitraging subscribers would obtain a lower price than they would if there were no discrimination.

- Third, the price discrimination strategy would be imperfect because of **[[REDACTED** [redacted]**]]**. For example, as shown in Table B1, **[[REDACTED]]** of satellite radio subscribers in the areas receiving six or fewer AM/FM stations live in ZCTAs whose satellite radio penetration is *below* the average penetration of **[[REDACTED]]** for all the ZCTAs with *more* than six stations. Similarly, **[[REDACTED** [redacted]**]]**. Thus, a price discrimination strategy against subscribers with access to such a low number of AM/FM stations likely would involve prices that were relatively too high for a significant number of subscribers. This also would reduce the profitability of the strategy.[282]
- Fourth, the price discrimination strategy would be imperfect because some favored customers might overlook the lower price. For example, suppose that the higher price were nationally advertised and the lower price offer were disclosed somewhere in the ad. That disclosure might be overlooked by a significant number of consumers to whom the company wished to offer the discount. This would reduce profitability because those potential customers would base their purchase decision on the discriminatory high price and some would choose not to subscribe as a result.
- Fifth, if the higher price involved a higher aftermarket equipment price, the price discrimination would be very costly to implement. No one would voluntarily pay a higher price and the widespread availability of aftermarket radios over the Internet provides a way to avoid paying higher prices. So the merged firm would have to offer a price rebate to all the favored subscribers who can show that they who live outside the targeted areas. Mail-in rebates are generally common in consumer electronics, so this type of price discrimination strategy could be an option. However, as shown in Table B1, if the target were areas with only two or fewer AM/FM radio stations, the targeted group would involve **[[REDACTED]]** of satellite radio subscribers who live in such areas. That small percentage of targeted subscribers would mean that the rebate would have to be processed for **[[REDACTED]]** of aftermarket purchasers. Since it is costly to process mail-in rebates, this would be a very expensive program, relative to the benefits. Even if the strategy targeted subscribers with access to nine or fewer AM/FM stations, **[[REDACTED]]** of purchasers would be eligible for the rebate.

[282] For a general analysis, *see* Jerry A. Hausman, Gregory K. Leonard & Christopher A. Vellturo, *Market Definition under Price Discrimination*, 64 ANTITRUST L.J. 367 (1996).

- Sixth, if the merged firm wanted to price discriminate against subscribers with radios pre-installed in vehicles, they would need to obtain the cooperation and acquiescence of automobile OEMs and dealers who promote satellite radio and provide information to vehicle purchasers. It is implausible that a dealer would charge buyers who live in certain ZIP codes higher radio prices. If the merged firm later on tries to charge a higher subscription price based on ZIP code, the buyers will blame the auto manufacturer and dealer, as well as the merged company.

- Seventh, any price discrimination strategy also would be costly because of the "anger" factor. Suppose that the company nationally advertised the low subscription price, but disclosed in the "fine print" that this price was not available everywhere. Assuming that this plan would not be treated as deceptive by the FTC and State Attorneys General, some consumers charged a higher-than-advertised price likely would be angered by the disparity, resulting in the company capturing disproportionately fewer of these customers than it might have absent the discrimination, thereby rendering the discrimination less profitable. In light of the low benefits of price discrimination here, the cost of this irritation could be quite high, relative to the benefit

Thus, all seven of these factors would reduce and likely eliminate the profitability of the price discrimination plan.

160. Finally, a price discrimination strategy here would be risky for another fundamental reason. **[[REDACTED** [redacted]]]. In addition, **[[REDACTED** [redacted]]] does not by itself prove whether or to what extent the average subscriber living in that area is more willing to absorb a significant price increase (relative to the average subscriber in areas that receive more AM/FM stations).[283] For example, the willingness-to-pay for satellite radio likely rises with income, and median household income tends to be lower in areas with fewer AM/FM stations.[284] This income effect suggests an offsetting lower willingness-to-pay factor for consumers in these targeted areas. This effect would thereby reduce or eliminate the profitability of any attempt to charge discriminatorily higher prices in areas with a very limited number of AM/FM signals.

[283] The technical point is that differences in observed penetration rates between two groups do not necessarily establish that the demand elasticity differs between the two groups (or, if so, by how much). Price discrimination between two groups of consumers can only be profitable if the demand of one group is more inelastic than that of the other. Furthermore, how different are the discriminatory prices charged the two groups and the profitability of price discriminating will depend on how different are the demand elasticities of the two groups, *ceteris paribus*.

[284] Regression analysis shows [[**REDACTED** [redacted]]].

161. This is certainly not intended to say that price discrimination is never profitable for a consumer goods company. Instead, this analysis suggests that discrimination is much less likely to be profitable in a situation like this one, where the targeted group is such a small fraction of likely customers, where the firm faces imperfect information on customers' willingness-to-pay, where there is a potential for arbitrage, and where there are significant costs of implementing a price discrimination strategy.

162. In this regard, it is significant that there is no geographic price discrimination today against subscribers in areas with few AM/FM signals. This is despite the fact that there are only two competitors in the alleged satellite radio "market" that is erroneously claimed in some of the Comments. Moreover, in this alleged duopoly, there is substantial product differentiation between Sirius and XM because of content exclusives and the fact that almost all vehicle manufacturers offer only one satellite radio brand, as well as switching costs between the two services for existing subscribers. This differentiation would appear to provide each firm with the current ability to price discriminate to some extent, if doing so were profitable. Under those circumstances, and given the economic conditions described in this section, the lack of price discrimination in the pre-merger world clearly suggests that profitable price discrimination in the post-merger world also is highly unlikely.

163. A similar analysis applies to truckers. Satellite radio is an attractive option for long distance truckers because they spend a large amount of time in their vehicles, they move across many geographic areas on major highways, and they pass through areas with few terrestrial radio stations. Both Sirius and XM have channels appealing to truckers.[285] Therefore, it would not be surprising if satellite radio were to have an above-average penetration rate among truckers. However, we understand that neither Sirius nor XM attempt to price discriminate against truckers. Moreover, price discrimination against truckers would be very difficult for the reasons already discussed. Truckers can purchase aftermarket receivers on the Internet and in big box stores around the country, so discrimination based on store location would not succeed.[286] Thus, it would be very difficult to effectively target truckers with higher prices. The merged firm conceivably might charge a very high a-la-carte price for the trucker channels, but this discriminatory strategy would be limited by the value of these channels.[287]

[285] Sirius offers "Road Dog Trucking Radio" (Channel 147) and XM offers "Open Road" (Channel 171).

[286] If the merged firm were to set an explicitly higher subscription price for truckers, they obviously would not disclose that they were truckers.

[287] We note that the American Trucking Associations has written a letter to the FCC in support of the merger, which is consistent with this analysis that truckers are unlikely to be harmed by the merger. Letter from Richard D. Holcomb, on behalf of the American Trucking Associations, to Marlene H. Dortch, Secretary, FCC, dated June, 21, 2007.

164. In summary, the merger will benefit consumers in areas with limited AM/FM coverage, and truckers, not harm them. The merger will reduce the costs and increase the quality of the audio entertainment product offered by the merged firm. The merger also will resolve free-rider problems and thereby increase the incentives for cost-reducing and demand-increasing investment, including penetration pricing. Thus, these consumers – as well as those living in areas that are better served by terrestrial radio broadcasters – will gain better audio options, even if there are fewer available terrestrial radio stations in some areas than others.

VI. CONCLUSIONS

165. For all these economic and factual reasons, the merger of Sirius and XM is likely to be a procompetitive transaction, however the market is defined. It is likely to increase competition and output, while reducing prices, not the opposite. The merger is unlikely to lead to price discrimination against subscribers in areas with limited coverage by AM/FM stations or against long distance truckers. The merger more likely will lead to lower costs, higher product quality, and an increased incentive to invest in demand-enhancing and cost-reducing activities. The greater efficiency and attractiveness of satellite radio after the merger likely also will have a procompetitive effect by spurring further innovation and investment by other audio entertainment competitors.

166. The parties have proposed a set of commitments to the Commission involving the offering of a variety of program options at certain prices. One component of the commitment would involve the continued availability of the current programming packages of Sirius and XM at the current $12.95 price. Another component would offer several options of fewer channels in exchange for lower prices. Another component would offer several options of increased channel coverage choices (including select content from the other service) at maximum prices of $16.99, well below the current $25.90 total price of subscribing to both services, and without the need to purchase two receivers. Finally, in the future, the parties will offer two expanded internet-based a-la-carte plans where a subscriber can pick (a) 50 channels for $6.99 with a $.25 a-la-carte per channel charge for additional channels (except for a few specified "super premium" channels, which would be available at a higher price) or (b) 100 channels for $14.99, including premium channels.

167. Our economic analysis does not rely on these commitments, and demonstrates that such commitments are not necessary to ensure that consumers are benefited from the merger. Competition and consumer welfare will increase from the lower costs, increased quality and enhanced procompetitive incentives created by the merger. However, these commitments suggest consumer benefits, absent evidence that prices would have fallen without the merger. Certain groups of consumers will opt for a reduced cost package. Others will opt for a more expensive package instead of the status quo. Even if subscribers choose a more expensive package with an expanded set of programming, the voluntary